YELLOWJACKETS

Eastern Yellowjacket - *Vespula maculifrons*
German Yellowjacket - *Paravespula germanica*

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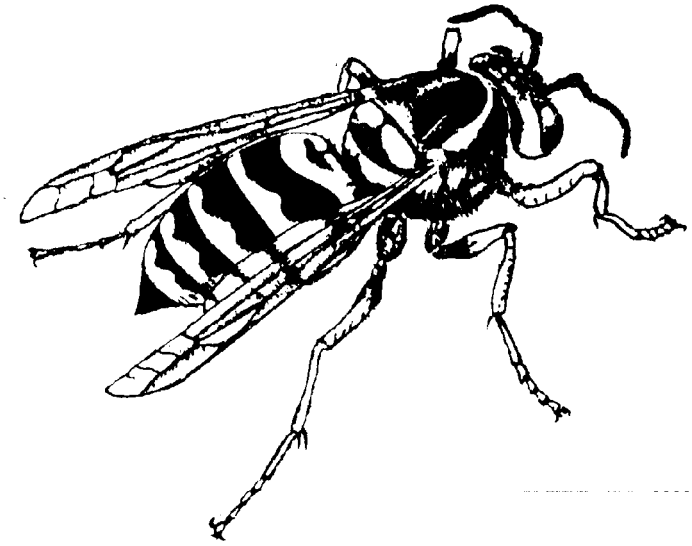
Identification

Yellowjackets are commonly confused with honey bees. Yellowjackets are the same size as honey bees, but have bright yellow and black stripes and very little hair. Honey bees tend to be covered with pale yellow fuzzy hairs without a distinctive stripe pattern. Popular cartoon depictions of honey bees are often misleading. and look more like yellowjackets than the honey bees they portray.



The two common species of yellowjackets in the midwest are the eastern yellowjacket which usually nests in the ground, and the German yellowjacket that has a habit of nesting in wall voids of structures. Yellowjacket workers, the most commonly encountered yellowjackets, are about 1/2 inch long. The queen is about 3/4 inch long.

Biology

Yellowjackets, like other social insects, have a caste (division of labor) system. Each nest has a queen whose purpose is to reproduce. Male yellowjackets fertilize the queen, and sterile female workers find food, take care of the queen, defend the nest, and care for the young.

Single queens begin building nests in the spring (May). Depending on the species, she will locate a hole underground, often an abandoned rodent burrow, or in a structure and construct a golf ball sized nest of paper that is made by mixing wood fibers with her saliva. She lays eggs and cares for the grub-like larvae in the nest. The first generation of sterile female workers emerge in June and assume the care of the nest which allows the queen to concentrate on reproduction. Yellowjacket adults feed on nectar, fruit juices, sap and other liquids and

provide insects and carrion to the larvae. The population of worker yellowjackets increases during the summer and peaks in early to mid-August. Nests may contain 1,000 to 5,000 workers and may measure three to four feet in diameter.

From late summer into early fall the queen produces queen and male yellowjackets. Each nest can produce thousands of new queens. Queens and males swarm from the nest and mate. The males, workers, and old queens die as winter approaches. Newly mated queens seek overwintering sites in protected places such as logs, under bark or leaf litter, and occasionally in structures. They remain dormant through the winter and begin the cycle once again in the spring.

Concerns

Yellowjackets are beneficial insects in the sense that they pollinate plants and feed other insects and carrion (dead meat) to their larvae. Many times they will prey on insects that we identify as pests. Unfortunately, their ability to sting makes them a considerable health concern. Yellowjackets alone are responsible for about one-half of all human insect stings. The stings of social wasps, such as yellowjackets, have evolved as a defense mechanism. The only purpose for the sting is to inflict pain. Yellowjackets are easily provoked and, unlike honeybees, can sting more than once. They will attack in force if their nest is disturbed. Unless a person is allergic to yellowjacket venom, stings are rarely life threatening.

Avoidance

Yellowjackets are most frequently encountered when they scavenge for food. Their habit of feeding on nectar and sugar can create a nuisance. Yellowjackets locate places where sweet food products have been served throughout the summer such as picnic facilities, ice cream stands, or soda fountains. In the fall, these locations usually have extremely high yellowjacket populations. By avoiding these areas, or eating in screened areas, contact with yellowjackets can be reduced.

Yellowjackets are attracted to open cups and cans of soda and other sweet liquids. They are also attracted to open cans of garbage, bright flowery clothing, and floral scented perfumes. All outside garbage cans must be kept clean and well covered, to reduce yellowjacket problems. Contact with the wasps can be decreased by reducing these attractions at picnics and other outings. In situations closer to home, the elimination of overripe fruit from gardens and orchards will dramatically decrease the number of scavenging yellowjackets. Holding gatherings indoors and using screens on windows will also help avoid yellowjacket problems.

There are a variety of traps on the market that claim to attract yellowjackets. These traps are baited with the scent of rotting fruit or other odors equally as appetizing to the yellowjackets. It is questionable whether these traps can out-compete the natural and man-made attractants described above. However, it is certain that through proper sanitation and removal of natural and man-made attractants, yellowjacket contact can be reduced. However, in situations where the potential for repeated human contact exists, other management methods may be necessary.

Management

Management of each species of yellowjacket differs because of their nesting habits. Both species do not reuse their nests, therefore what was a problem this year may not occur next year. Caulking cracks and crevices in structures in winter and early spring, after the nests have died, will prevent German yellowjackets from constructing nests inside buildings. Openings to active nests should not be caulked.

Chemical control for ground-nesting yellowjackets consists of drenching the exit hole with an approved insecticide and plugging the hole with treated soil or cotton balls. Yellowjackets that are not killed by the initial treatment will be killed by chewing on the treated cotton ball or tunneling through the soil. Yellowjacket entrance holes in buildings can be treated with approved insecticide dusts. As the yellowjackets walk through the dust they pick it up on their legs and transport it into the nest. When yellowjackets groom themselves they ingest the dust on their legs. It may take up to a week for the colony to die and repeated chemical applications may be necessary. When the entrance hole of an active nest is in a building, the hole should not be plugged with the insecticide or caulked. The yellowjackets may decide to chew through the soft inside wall rather than chew through the insecticide or caulking material.

Implement chemical control measures at dusk or dawn when the wasps are in their nest. Wear protective clothing when attempting to eliminate the nests, such as long sleeved jackets, gloves, and pants. Tape the wrists and ankles to the clothing, to prevent the wasps from getting underneath the clothes. A bee veil or other enclosed form of face and neck protection should also be worn. Yellowjackets will defend their nest, so to avoid being attacked, use a flashlight covered with red cellophane when applying the insecticide at night. Yellowjackets are unable to see red. In sensitive locations, or where control has not been effective, professional pest control operators should be consulted to handle the problem.

For more information on managing yellow jackets and chemical recommendations, see the University of Illinois Urban Pest Management Handbook or contact your unit office of the University of Illinois Cooperative States Research, Education, and Extension Service.

Prepared by Entomologists at the University of Illinois and Illinois Natural History Survey. For additional copies, contact your unit office of the University of Illinois Cooperative Extension Service.

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